

**What is claimed is:**

1. A multiple discharge-servo curve control method of electrical discharge machine, which comprises of:
  - (1) input all of the pairs of the gap-voltage deviation and its  
5 corresponded machine precession rate of the discharge-servo curvature to build a multiple discharge-servo curve database;
  - (2) define the numerical value of the discharge-servo curve parameters, which is depended on the processing conditions and the required discharge-servo curve to define a numerical  
10 value for the discharge-servo curve;
  - (3) according to the numerical value of the discharge-servo curve parameters, access the corresponding discharge-servo curve data kept in the discharge-servo curve database and record it into the multiple discharge-servo curve controller;
  - 15 (4) input the processing instruction and the discharge-servo curve instruction in order to setup the processing program;
  - (5) program node for judging the processing instruction, and the processing instruction will be executed by following the discharge-servo curve data that is stored insider the multiple  
20 discharge servo-curve-controller as soon as program node being a calling instruction; and then
  - (6) program node for judging the discharge-servo curvature, the  $n^{\text{th}}$  discharge-servo curve data will be accessed from the discharge-servo curve database and is then stored insider the  
25 multiple discharge servo-curve-controller as program node

being a "discharge machining NO.n".

2. A multiple discharge-servo curve control method of electrical discharge machine, which comprises the content of claim 1, wherein the discharge-servo curve that is defined by the gap-voltage deviation and machine precession rate of the real discharge machining records of the different electrode material.
3. A multiple discharge-servo curve control method of electrical discharge machine, which comprises the content of claim 1, wherein the discharge-servo curve that is defined by the gap-voltage deviation and machine precession rate of the real discharge machining records of the different work-piece material.
4. A multiple discharge-servo curve control method of electrical discharge machine, which comprises the content of claim 1, wherein the discharge-servo curve that is defined by the gap-voltage deviation and machine precession rate of the real discharge machining records of the different cutting solution material.
5. A multiple discharge-servo curve control method of electrical discharge machine, which comprises the content of claim 1, wherein each discharge-servo curve owns its corresponded numerical value of the discharge-servo curve parameter set in the discharge-servo curve database.
6. A multiple discharge-servo curve control method of

electrical discharge machine, which comprises the content of claim 1, wherein the 1<sup>st</sup> discharge-servo curve owns its corresponded numerical value of the discharge-servo curve parameter set as "1" in the discharge-servo curve database.

- 5 7. A multiple discharge-servo curve control device of electrical discharge machine, comprising:

a storage unit, which keeps the discharge-servo curve data;

a setting unit, which sets the numerical value of discharge-servo curve parameter;

- 10 a reading unit, which access the discharge-servo curve data from the storage unit in according with the numerical value of discharge-servo curve parameter defined in the setting unit;

- a program unit, which provides the processing instruction of the machining program, the editing of the discharge-servo curve instruction and the initiation of the machining program,  
15 moreover it executes the work-piece machining with the discharge-servo curve data; and

- an instruction-judging unit, which judge the machining program node to be the processing instruction or the discharge-servo curve instruction, obeying the discharge-servo curve instruction edited by the program unit, the processing program will call the discharge-servo curve instruction to match the real machining needs, swap the discharge-servo curve information and upgrade to the one-step machining with selectable multiple  
20 discharge-servo curves.  
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